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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,292	01/24/2002	Kenneth W. Peterson	10012183 -1	9788

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EXAMINER

DUDDING, ALFRED E

ART UNIT PAPER NUMBER

2853

DATE MAILED: 03/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/056,292

Applicant(s)

PETERSON ET AL.

Examiner

Alfred E. Dudding

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2004.
- 2a) ☒ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 15-19 and 21-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-19, 21-25 and 37 is/are allowed.
- 6) ☒ Claim(s) 1-12 and 26-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/30/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1 – 12, 26, 27 – 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurada et al. (U.S. 4,672,432 A) in view of Brown (U.S. 6,273,50 B1).

Sakaruda et al. disclose a six ink jet printing system, comprising a plurality of rows of dark dye nozzles, each row of dark dye nozzles coupled to a supply of ink and having a color selected from the group consisting of cyan and magenta (Figure 5, ink supplies element 151, dark dye nozzles 152 BK, 152 YK, 152 CK, 152 MK); a row of yellow dye nozzles (Figure 5, element 152 Y); one or more rows of adjacent black dye nozzles coupled to a supply of black ink; and a plurality of rows of light dye nozzles, each row of light dye nozzles coupled to a supply of ink and having a color selected from cyan, magenta, yellow, and black (Figure 5, element 152 Ca, light cyan, 152 MA, light magenta); wherein each of the rows of the yellow dye nozzles, dark dye nozzles, light dye nozzles, and black dye nozzles are arranged substantially parallel to each other, and wherein each row of nozzles adjacent to a row of dark dye nozzles and the one or more rows of black dye nozzles is a row of light dye nozzles or the row of yellow dye nozzles, Figure 6, plural elements 151 are arranged to form printhead 101. Sakaruda et al.

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disclose an eight jet printing system comprising at least three rows of light dye nozzles, wherein each row of light dye nozzles is coupled to a supply of light dye ink of a different color, the supplies of light dye ink including the colors of light cyan, light magenta, light black, and light yellow, Figure 2, element 52 YA, 52 CA, 52 MA, 52 BA. Sakaruda et al. teach that the rows of dark dye nozzles are separated from each other by rows of light dye nozzles, Figure 2, clearly seen. Sakaruda et al. disclose a printing system wherein the rows of dark dye nozzles with the exception of any row of yellow dark dye nozzles are separated from each other by rows of light dye nozzles and yellow dye nozzles, Figure 2, clearly seen. Sakaruda et al. disclose a printing system wherein the at least one row of dye nozzles coupled to a supply of black ink is followed by a row of yellow dye nozzles which is followed by rows of the remaining nozzles arranged in alternating rows of light and dark dye nozzles, with a row of light dye nozzles adjacent the row of yellow dye nozzles, Figure 2, clearly seen. Sakaruda et al. teach that a column of yellow die nozzles is located at the other end of the plurality of rows of dye nozzles, and wherein the remaining rows of dye nozzles are arranged between the black and yellow nozzles rows of dye nozzles in alternating rows of light and dark dye nozzles starting with a row of light dye nozzles adjacent the at least one row of dye nozzles coupled to a supply of black ink, Figure 2, clearly seen. Sakaruda et al. disclose a printing system wherein the at least one row of dye nozzles coupled to a supply of black ink is coupled to a supply of dark black ink and is followed by a row of dye nozzles coupled to a supply of light black ink, wherein only one row of dye nozzles is coupled to a supply of yellow ink, and wherein dark and light ink rows alternate, with the row of dye nozzles coupled to a supply of yellow ink being treated as a dark ink row in this alternation pattern, Figure 2, clearly seen. Sakaruda et al. disclose a printing system wherein one column of

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yellow nozzles is located at the other end of the plurality of nozzle columns adjacent a column containing dark dye nozzles, and wherein one column of dark yellow nozzles is located directly between one column of light dye nozzles and the one or more column of dark black dye nozzles, Figure 2, clearly seen.

Sakaruda et al teach all of the limitations of the claimed invention except for a seven ink jet printing system and a printing system wherein a combination of light dye ink and dark dye ink is used during low speed printing and only dark dye ink is used during high speed printing.

Brown discloses a seven ink jet printing head, Figure 8B. Brown teaches that a combination of light dye ink and dark dye ink is used during low speed printing and only dark dye ink is used during high speed printing, Column 6, lines 52 – 60.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that printing with dark dye inks (black ink for text) would be faster than printing with color inks or a combination of color or dark dye inks due to the calculation time involved in obtaining color gamut and placement data.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the seven ink jet print head of Brown in the printhead of Sakaruda et al. in order to reduce the amount of inks required in the eight ink jet printhead of Sakaruda et al. and produce more color versatility than the six ink jet print head of Sakaruda et al.

Allowable Subject Matter

4. Claims 15 – 19, 21 – 25, and 37 are allowed.
5. The following is a statement of reasons for the indication of allowable subject matter:

a. The primary reason for the allowance of claims 36 and 37 is the inclusion of the limitation of an ink jet printing system wherein the ink used during high speed printing is stored in the supplies coupled to the dark dye nozzles and yellow dye nozzles. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught, or suggested by the prior art of record which makes these claims allowable over the prior art.

Response to Arguments

6. Applicant's arguments filed 24 January 2002 with respect to claims 1 – 12 and 26 – 36 have been fully considered but they are not persuasive. Applicant's argument that Brown does not teach using “a combination of light dye ink and dark dye ink during low speed printing and only dark dye ink during high speed printing” is not persuasive because only black ink (dark dye ink) is used by Brown in high speed printing, albeit monochrome printing. Claims 1, 26, and 27 are vague as to what constitutes dark dye ink or whether monochrome printing is not considered.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alfred Dudding whose telephone number is (571) 272-2144. The examiner can normally be reached on Monday-Friday from 8:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier, AU 2853, can be reached at (571) 272 - 2149. The fax phone number for this Group is are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 308-0956.

Alfred Dudding

aw

3/9/04


Stephen D. Meier
Primary Examiner